ABSTRACT OF THE DISCLOSURE

A system and method are presented for neutralizing the electric charge binding a semiconductor wafer to an electrostatic chuck. When processing of a semiconductor wafer has been completed, lifter pins, driven by solenoids or pistons, are provided within the chuck to remove the wafer. However, if the electrostatic force has not been completely dissipated, the pins may have to push very hard against the wafer to dislodge it. When this occurs, the wafer may be violently displaced from the chuck, resulting in misplacement of the wafer, or even damage. A system and method are disclosed herein for completely neutralizing the electrostatic charge before removal of the wafer is attempted. Neutralization is detected as the point at which the electrostatic force opposing the lifting mechanism reaches a minimum.